Appln. No.: 10/516,438

Amendment Dated January 4, 2011 Reply to Office Action of August 5, 2010

## **Amendments to the Claims:**

This list of claims replaces all prior versions and lists of claims in the application:

## 1-11. (Canceled)

- 12. (Previously Presented) Filter device for molten steel filtration made of a ceramic material comprising fibers in an amount of up to 20% by weight of the filter and a carbon bonded network of graphitized carbon, the graphitized carbon constituting the bonded network being present in an amount up to 15% by weight of the filter, the filter device comprising a protruding frame joining a plurality of sieve plates, each plate including a corrugated surface, the protruding frame and sieve plates defining a reservoir chamber, said carbon bonded network being obtained by preparing a semi-damp mixture comprising a ceramic powder and a graphitizable carbon bonding precursor, and, after forming said filter device from said mixture, firing said filter in a reducing or non-oxidizing atmosphere to a temperature of up to 1000°C.
- 13. (Previously Presented) The filter device of claim 12, wherein at least one corrugated surface includes a surface corrugation from 0.1-10 mm.
- 14. (Previously Presented) The filter device of claim 13, wherein the surface corrugation is from 1-5 mm.
- 15. (Previously Presented) The filter device of claim 12, wherein each sieve plate defines a plurality of through holes, and the through holes of a first plate are spaced laterally from the through holes of a second plate.
- 16. (Previously Presented) The filter device of claim 15, wherein the through holes have a diameter from 1-10 mm.
- 17. (Previously Presented) The filter device of claim 16, wherein the through hole diameter is from 2-5 mm.
- 18. (Previously Presented) The filter device of claim 15, wherein the through holes comprise a shape selected from the group consisting of circular, elliptical, triangular, square, rectangular, pentagonal and hexagonal.

SUD-104US

Appln. No.: 10/516,438

Amendment Dated January 4, 2011 Reply to Office Action of August 5, 2010

- 19. (Previously Presented) The filter device of claim 12, wherein the sieve plates include a substantially an identical geometry.
- 20. (Previously Presented) The filter device of claim 12, wherein the filter comprises a ceramic raw material.

## 21. (Canceled)

- 22. (Previously Presented) A method for producing a filter device made of a ceramic material comprising fibers in an amount of up to 20% by weight of the filter and a carbon bonded network of graphitized carbon, the graphitized carbon constituting the bonded network being present in an amount up to 15% by weight of the filter, the filter device comprising a protruding frame joining a plurality of sieve plates, each plate including a corrugated surface, the protruding frame and sieve plates defining a reservoir chamber, the method comprising:
  - a) pressing a semi-damp mixture comprising ceramic powder and a graphitizable carbon bonding precursor and fibers to obtain a first and second perforated sieve plate, each plate having a disk shape, a protruding frame, and corrugated surface on at least one surface;
  - b) forming an assembly by joining the first and second perforated sieve plates by the protruding frames using a binder, whereby the plates and frame define a reservoir chamber; and
  - c) firing the assembly in a non-oxidizing atmosphere to a temperature up to 2000°C to obtain said carbon bonded network.
- 23. (Previously Presented) The method of claim 22, wherein the binder is selected from a group consisting of ceramic or carbon.
- 24. (Previously Presented) The method of claim 22, wherein the non-oxidizing atmosphere is a reducing atmosphere.
- 25. (Previously Presented) The method of claim 22, wherein firing occurs between 600-700°C.
- 26. (Previously Presented) The method of claim 22, including roughening the corrugated surface.

Appln. No.: 10/516,438

Amendment Dated January 4, 2011 Reply to Office Action of August 5, 2010

27-28. (Canceled)

29. (Previously Presented) The method of claim 22, wherein the precursor is fired from 500-2000  $^{\circ}$ C.